MARCONI IS DEAD OF HEART ATTACK

Wireless Inventor Succumbs at His Home in Rome at the Age of 63

HIS CAREER STARTED AT 21

He Patented His System in 1896 and Then Went From Success to Success

By The Associated Press.

ROME, Tuesday, July 20.—Guglielmo Marconi, inventor of the wireless, died unexpectedly last night of a heart attack at his home here. He was 63 years old.

At 21 Took Up Wireless.

Guglielmo Marconi's father wanted him to study music in Bologna after he was graduated from the university there in 1895, but the young man had grown interested in the practical possibilities of certain invisible electric waves. He had seen them demonstrated in the physics laboratory as the latest scientific curiosity. They passed through free space and acted on a detector at the other side of the room.

He was then 21, and was convinced that these waves which had been discovered seven years previously by Heinrich Hertz, thirty-one years after Clerk Maxwell had predicted them mathematically, could be used to transmit telegraphic dots and dashes over a distance without the use of wires.

He was right from the very beginning.

In 1895, with a spark coil as a sender of Hertzian waves and with a receiver invented some years previously by Edouard Branley of France and known as a coherer, he established the first radio station in his father's home in Pontecchio, near Bologna, and sent telegraphic messages more than a mile without wires.

He patented his system next year in London and demonstrated it for the British Postoffice Department over distances up to nine miles. He had no difficulty in finding backers in London, who organized Marconi's Wireless Telegraph Company, Ltd., in 1897.

The backers regarded it as an opportunity such as had not appeared since the American inventor, Samuel F. B. Morse, with a similar practical turn of mind, had taken the electromagnet out of the physics laboratory and given the world a telegraph and cable system of communications.

From Success to Success.

With the backing of his company, Marconi's development of wireless telegraphy proceeded from success to success. In 1898 he established wireless communication across the English Channel with France; the wireless was used in naval manoeuvres over distances up to seventy-four miles; and it had its first application in the sending of a rescue call at sea when the English lightship East Goodwin was run down by a liner. The lightship, which had been equipped with an experimental wireless set to communicate with the South Foreland Lighthouse, was able to send a wireless message for help to the lighthouse in time to have lifeboats sent to the rescue.

Marconi's results so far had been

Continued on Page Eleven

MARCONI IS DEAD OF HEART ATTACK

Continued From Page One

regarded by scientists as interesting, but not surprising. To them Marconi was and always remained simply an engineer making practical use of electrical science. To engineers, on the other hand, Marconi in 1900 seemed to have reached the effective limit of wireless when he telegraphed without wires through a distance of 150 miles.

Since his Hertzian waves traveled at the speed of light, they were assumed to have the characteristics of light, which could not be sent over the horizon to reach a receiver on the other side of the world.

Nevertheless the Marconi Company built for him a powerful station at Poldhu in Cornwall in 1900, and Marconi crossed the ocean to St. John's, Nfld., in 1901 to listen for the first transatlantic wireless message.

Not Bound by Theory.

His attitude toward theorists who were sure they knew what could not be done practically with a natural phenomenon was expressed then and re-stated at various times during his life. "I do not think it wise to believe in the limitations indicated by purely theoretical considerations or even by calculations," he said. "As we have learned from experience, they are often based on insufficient knowledge of all the relevant factors I believe, in spite lines of research, however unpromising they may seem at first."

He was 27 when he established himself with his receiving apparatus and two technical assistants, G. S. Kent and P. W. Paget, on top of Signal Hill outside St. John's Harbor, and cabled to his operator at Poldhu to start sending a set of signals according to a prearranged program at 11:30 A. M. and 2:30 P. M., Newfoundland time.

The signal was to be the letter "S," which in Marconi's code is made by three dots; and it was to be sent in a definite time pattern to avoid mistaking any electrical disturbance for the signals.

In a howling gale on Dec. 12, 1901, Marconi sent up a kite which raised 400 feet of bare copper wire into the air as the antenna to intercept the message which other engineers said he could not send around the curved earth, across 1,700 miles of ocean.

Transatlantic Attempt Wins.

The first attempt was a complete success. There was no doubt about it. But Marconi waited until the next day and repeated the test, with the same success, before announcing to the world that transatlantic wireless communication had come into existence.

On both sides of the Atlantic the general public accepted the announcement with little excitement, under the apparent impression that the transmission of signals not confined to wires, but broadcast to the infinite, would have little or no effect on their lives.

Since then the date of this first transatlantic message has been elevated into the opening of a new epoch in human history, in which the world has been brought within the instant sound of a man's voice, whether it be a King, a Pope, a President, a dictator or an explorer flying over the Pole.

The development was rapid. The first ocean daily newspaper which is now a regular equipment of all liners was published on the Campania in 1904. When Marconi in 1907 announced that he was ready to establish commercial wireless between America and Europe, there was a sharp drop in cable shares. In 1910 Congress ordered all vessels of more than fifty passengers to carry wireless apparatus for sending distress calls.

Meanwhile, electrical engineers were rapidly filling in the technical apparatus of radio communication, and with the development of the radio tube, wireless messages which had been confined to the dots and dashes of the telegraphic code, became commercial telephone conversations about 1912, and broadcasting took its start experimentally with the World War.

Pope Broadcasts Message.

Thirty years after the first transatlantic message, the Pope, in February, 1931, addressed a broadcast message in Latin and Italian to the entire world.

Even before the World War, radio was a new world industry, and the courts of every nation were busy deciding patent suits and complaints of investors who felt they had suffered in some way or other during the radio boom.

Marconi, however, remained personally absorbed in the engineering side of radio, proceeding like his friend Edison to deal with the broad problems still to be solved or the advances to be made, such as static and short-wave transmission, with the help of the technical resources of the world in which radio engineering had become a separate profession.

In 1930 he was responsible for directing the attention of radio engineers to the use of ultra-short waves, which had been neglected on the ground that they were too close to light and could not travel around the horizon. Within a few years he had demonstrated that they could be transmitted five times further than might be assumed with light waves, and were little affected by fading and static.

Most of his work was done on his floating laboratory, the steam yacht Elettra, on which he could place himself on the face of the ocean in experimental positions with respect to land stations terrestrial obstruction, fogs or whatever he was attacking.

He remained an optimist about what could be done with radio. His prediction of transatlantic telephony was thirteen years ahead of the accomplishment. He expected television by 1926, and he expected that power would be transmitted eventually by a directed radio beam.

Promised New Surprise.

In April, 1934, he startled his associates in London with an unexplained promise: "I hope to surprise you in a year or two as I surprised you by transmission across the ocean in 1901."

Honors were heaped on him beyond enumeration during his lifetime. In 1909 the Nobel Prize in Physics was awarded to him, as well as the Albert Medal of the Royal Society of Arts, and in the United States, the Franklin Medal.

In 1914 the King of Italy appointed him a Senator, an honor reserved by his country for the highest achievement.

In 1931, fourteen nations of the world joined in a broadcast celebration of the thirtieth anniversary of the new epoch which began with his first transatlantic message.

Marconi's life was devoted to radio. According to his own explanation in 1934, he took everything else on faith.

"There is no doubt," he said then, "that from the time humanity began to think, it has occupied itself with its origin and its future, which undoubtedly is the problem of life. The inability of science to solve it is absolute. That would be terribly frightening were it not for faith."

Although he was born in Italy, at Bologna, on April 25, 1874, he was a citizen of the world through his travels. His father was an Italian banker and his mother was Anna Jameson, an Irish woman. He spoke English as perfectly as Italian.

In 1906 he married the Hon. Beatrice O'Brien in London, and in 1924 was divorced by her under the laws of Fiume. He had the marriage annulled in 1927 by the Rota of the Roman Catholic Church and immediately married Countess Marie Bezzi Scali. At this ceremony his best man was Mussolini.

Times Studio

FAMOUS INVENTOR WHO IS DEAD

Guglielmo Marconi